

dispersive powers, accordingly, the unpolarized light which remains in the extraordinary image must be coloured at all incidences, the colours being most distinct near the maximum polarizing angle. This necessary result of the formula, the author finds to be experimentally true in oil of cassia, and various highly dispersive bodies; hence there can be no angle of complete polarization for white light.

The same law which determines the polarization of light by reflexion is applicable also to that by refraction; in both cases, the analysing doubly-refracting crystal is insufficient to distinguish light completely polarized from light in a state of approach to polarization. The difference, however, between these two kinds of light, is marked by most distinctive characters, and shows itself in some of the most complex phenomena of interference. Hence the author is led to consider common light as composed of rays in every state of positive and negative polarization, or of particles having planes, which are acted upon by the attractive and repulsive forces residing in solid bodies; such planes having every possible variety of inclination to a plane passing through the direction of their motion. The formulæ given in the paper represent the laws according to which the repulsive and attractive forces change the position of the planes of polarization; so that the author regards all the various phenomena of the polarization of light by reflexion and refraction, as now brought under the dominion of laws as well determined as those which regulate the motions of the planets.

*A Report on the Stomach of the Zariffa. By Sir Everard Home, Bart. V.P.R.S. Read December 24, 1829. [Phil. Trans. 1830, p. 85.]*

In common with other ruminant quadrupeds, the Zariffa has a stomach consisting of four cavities. The efflorescence which lines the paunch is similar to that of the bullock, but is more prominent; the second cavity is destitute of the cellular structure met with in other ruminants, but the third and fourth cavities exhibit no peculiarities; the cud formed from the leaves and twigs of the acacia, which are the natural food of the Zariffa, is so succulent, as not to require being again moistened in passing through the second stomach, as is the case with grass; this cavity is therefore not furnished with the cells which are provided for this purpose in herbivorous quadrupeds.

Three drawings of the structure of the parts described accompany the paper.

*On the Production of regular double Refraction in the Molecules of Bodies by simple Pressure; with Observations on the Origin of the doubly refracting Structure. By David Brewster, LL.D. F.R.S. L. & E. Read February 11, 1830. [Phil. Trans. 1830, p. 87.]*

The author has already shown, in former papers which have appeared in the Philosophical Transactions, that the phenomena of